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### The Effect of Smoking on the "Small Airways."

The investigators have measured airway conductance and instantaneous forced expiratory flow rates before and after smoking a Kentucky University research cigarette in healthy young volunteers using: (1) brands with different tar and nicotine content; (2) subjects of different ethnic background; (3) chain smoking (three cigarettes in rapid succession); (4) gases of different density, and (5) filtered vs. nonfiltered smoke. They also performed puff by puff analysis to establish the dose dependence and time course of response.

The researchers have shown so far that airway response to acute smoking is established and maximal after only three puffs; it is independent of the nicotine in the cigarette; it is the same regardless of race or ethnic origin; the range of response is narrow (i.e., no "reactors" were found), and the density-dependence of expiratory flow is unaffected by acute smoking. Filtering the smoke ameliorates, but does not eliminate, the response.

Ongoing research is directed at the effect of acute smoking on the distribution of inspired air.

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